CLAIMS

1. An anastomosis connector, comprising:

a plurality of ring segments, together defining a radially expandable ring-like shape having a lumen;

at least one pivot bar coupled to at least one of said ring segments; and

at least one spike mounted on said pivot bar and rotatable around said pivot bar,

wherein radial deformation of said ring-like shape does not substantially directly affect said spike rotational position.

2. A connector according to claim 1, wherein rotation of the pivot bar is mechanically decoupled from radial deformation of ring-like shape.

3. A connector according to claim 2, wherein said at least one pivot bar comprises at leas two pivot bars, wherein said at least one spike is mounted on a first one of said pivot bars and said first pivot bar is mounted on the other pivot bar.

4. A connector according to claim 1, wherein said at least one spike is pointed towards said ring-like shape.

5. A connector according to claim 1, wherein said at least one spike is pointed away from said ring-like shape.

6. A connector according to claim 1, wherein said at least one spike comprises at least two spikes, each mounted on a separate pivot bar, wherein said spikes point in opposite directions along an axis of said connector.

7. A connector according to claim 1, wherein said connector is designed such that said at least one spike remains outside of a side vessel in an end-to-side anastomosis.

8. A connector according to claim 1, wherein said connector is designed such that said at least one spike enters a side vessel in an end-to-side anastomosis.

9. A connector according to claim 1, wherein said pivot bar is comprised in a spike element.

10. A connector according to claim 9, wherein said spike element comprises two opposing spikes.

11. A connector according to claim 9, wherein said spike element interconnects two adjacent ring segments.

12. A connector according to claim 9, wherein said spike element is attached to only a single ring element.

13. A connector according to claim 1, wherein said at least one spike has a tip adapted to penetrate a blood vessel.

14. A connector according to claim 1, wherein said at least one spike has a tip adapted to lay against a blood vessel without penetrating it.

15. A connector according to claim 1, wherein said connector is heat-treated to have said at least one spike perpendicular to said ring.

16. A connector according to claim 1, wherein said connector is heat-treated to have said at least one spike parallel to said ring.

17. A connector according to claim 1, wherein said connector is heat-treated to have said at least one spike bend.

18. A connector according to claim 1, wherein said connector is heat-treated such that said at least one spike does not bend.

19. A connector according to claim 1, wherein said connector is heat-treated such that said pivot bar is twisted.

20. A connector according to claim 1, wherein said connector is heat-treated such that said pivot bar is not twisted.

21. A connector according to claim 1, wherein said pivot bar is within an axial extent of said ring-like shape.

22. A connector according to claim 21, wherein said pivot bar is substantially centered relative to said ring like shape.

23. A connector according to claim 1, wherein said pivot bar is outside an axial extent of said ring-like shape.

24. A connector according to claim 1, wherein said pivot bar is comprised in a pivot mechanism.

25. A connector according to claim 24, wherein said pivot mechanism is directly mounted onto at least one of said ring elements.

26. A connector according to claim 24, wherein said pivot mechanism is coupled via a single extension to at least one of said ring elements.

27. A connector according to claim 24, wherein said pivot mechanism is coupled via at least two extensions to at least one of said ring elements.

28. A connector according to claim 24, wherein said pivot bar is coupled to said pivot mechanism via a hinge at each end of said pivot bar.

29. A connector according to claim 28, wherein said hinge comprises a thickening of said mechanism relative to said pivot bar.

30. A connector according to claim 24, wherein said connector comprises a plurality of alternating ring segments and pivot bar mechanism and wherein said pivot bar mechanisms are axially staggered, to allow a greater radial compression of said ring-like shape.

31. A connector according to claim 1, wherein said pivot bar is straight.

32. A connector according to claim 1, wherein said pivot bar is piece-wise straight.

33. A connector according to claim 1, wherein said pivot bar is curved.

34. A connector according to claim 1, wherein said connector is packaged.

35. A connector according to claim 34, wherein said packaging indicates a particular vessel type for said connector and for which said connector is adapted.

36. A connector according to claim 35, wherein said vessel type comprises a femoral artery.

37. A connector according to claim 35, wherein said vessel type comprises an aorta.

38. A connector according to claim 34, wherein said packaging indicates a particular vessel size for said connector and for which said connector is adapted.

39. A connector according to claim 34, wherein said packaging indicates a particular vessel wall thickness for said connector and for which said connector is adapted.

40. A connector according to claim 39, wherein said ring-like shape has an axial extent smaller than said wall thickness.

41. A connector according to claim 34, wherein said packaging indicates a particular connection geometry for said connector and for which said connector is adapted.

42. A connector according to claim 41, wherein said geometry is a side-to-end geometry.

43. A connector according to claim 34, wherein said packaging indicates a particular oblique angle geometry for said connector and for which said connector is adapted.

44. A connector according to claim 1, wherein said at least one spike is cut out of an opposing spike of said connector.

45. A connector according to claim 1, wherein at least one of said ring segments comprises a plurality of axially spaced elements.

46. A connector according to claim 45, wherein said plurality of elements comprises at least three elements.

47. A connector according to claim 45, wherein said plurality of elements comprises at least four elements.

48. A connector according to claim 45, wherein said plurality of elements comprises at least five elements.

49. A connector according to claim 45, wherein all of said plurality of elements have a same geometry.

50. A connector according to claim 45, wherein at least two of said plurality of elements have mirrored geometries.

51. A connector according to claim 45, wherein at least one of said plurality of elements has a single curve geometry.

52. A connector according to claim 45, wherein at least one of said plurality of elements has a dual curve geometry.

53. A connector according to claim 45, wherein at least one of said plurality of elements has at least three curves defined thereby.

54. A connector according to claim 45, wherein at least one of said plurality of elements has a varying width.

55. A connector according to claim 45, wherein all of said plural[illegible] have a constant width.

56. A connector according to claim 45, comprising a strain dissipation element at a point of connection of at least one of said elements and a spike element to which said ring segment is attached.

57. A connector according to claim 56, wherein said strain dissipation element comprises a thickening of said axially spaced element.

58. A connector according to claim 57, wherein said thickening defines an aperture.

59. A method of everting a blood vessel, comprising:

engaging a tip of said vessel at a plurality of points around its circumference;

inverting said tip by inverting said points; and

pulling said inverted points towards a distal end of said blood vessel.

60. A method according to claim 59, wherein said plurality comprises at least four points.

61. A method according to claim 59, wherein said engaging comprises engaging using forceps and wherein said inverting comprises rotating said forceps.

62. A method according to any of claims 59-61, wherein said pulling comprises pulling different ones of said points different amounts.

63. Apparatus for graft eversion of a graft over a shaft having a tip, comprising:

a handle for engaging said shaft;

a plurality of forceps arranged to engage a tip of said graft where it protrudes form said shaft; and

a plurality of joints, each one associated with one of said forceps, for rotating said forceps pulling a tip of each of said forceps axially along said shaft.

64. A method of measuring a graft size, comprising:

mounting a tip of said graft on two extensions, one extension coupled to a spring and one extension coupled to a handle;

manipulating said handle such that said extensions separate;

reading a measurement on a scale coupled to said spring; and

selecting an anastomosis connector responsive to said read measurement.

65. A method according to claim 64, comprising further manipulating said handle to stretch said graft tip.

66. A hole puncher, comprising:

a sharp tip for forming a puncture in a blood vessel;

a shaft having a varying diameter and having a depression formed therein for engaging a wall of said blood vessel, said diameter substantially matching a diameter of said tip at one end of the shaft, said diameter increasing away from said tip for a first distance and said diameter then defining a slope of diminishing diameter towards said depression: and

an outer tube mounted on said shaft and having an end, said outer tube having an inner diameter of said end that is in a range of diameters defined by said slope of diminishing diameters.

67. A puncher according to claim 66, wherein said end of said outer tube has a smaller outer diameter that a more proximal portion of said outer tube.

68 A puncher according to claim 66 or claim 67, wherein said diminishing diameter slope is obliquely arrange around said shaft.

69. A method of forming an oblique anastomosis connector, comprising:

providing a non-oblique anastomosis connector;

mounting said connector in a restraint;

manipulating said restraints to deform said connector to a desired degree of obliqueness; and

heat-treating said connector after said manipulation, to maintain said distortion.

70. A method according to claim 69, comprising heat-treating said connector prior to said mounting, to train a deformation of a spike portion of said connector.

71. A side mounted delivery system, comprising:

a handle including an opening in its side;

a graft delivery tool adapted to fit through said opening; and

a groove and projection mechanism slidably interconnecting said tool and said handle.

72. A system according to claim 71, comprising a snap-lock mechanism for axially fixing said handle relative to said tool.

73. A method according to any of claims 59-61, wherein said points are inverted simultaneously.